

**REMARKS**

Claims 121-131 are pending in the application. No new matter has been inserted into the application.

**Rejection Under 35 U.S.C. §102(e) Over Li '104 (US 6,704,104)**

Claims 121, 122 and 130 have been rejected under 35 U.S.C. §102(e) as being anticipated by Li '104. Applicant traverses this rejection. Reconsideration and withdrawal thereof are respectfully requested.

The Examiner is reminded that in order to establish *prima facie* anticipation, each and every limitation of the presently claimed invention must be disclosed in the cited reference.

The presently claimed invention is directed to a method of determining interactive characteristics of a sample component comprising: exposing at least two surface regions, each presenting a different chemical, biochemical, or biological functionality, to a sample; and determining an interaction pattern of the sample with the at least two surface regions on the surface, indicative of an interaction characteristic between at least one component of the sample with the at least two surface regions.

**Li '104**

Li '104 discloses an array detector making a spatially addressable array of various biological species. In particular, Li '104 discloses immobilizing DNA at different sites. Li '104 discloses that the biological species deposited at each site of the array is previously known. Thus, Li '104 discloses an array detector that can sensitively detect each location of a high density DNA array.

In contrast to Li '104, the presently claimed inventive subject matter is directed to the concept of compound "fingerprinting". Unknown drug candidates may be characterized from protein binding modules per array. Without limitation, the invention may be envisioned in the following way.

An array of protein modules or protein motifs is formed. A cDNA library which may produce about 30,000 gene products may be recombinantly engineered to express histidine, maybe 6 or 7 histidine residues at the C terminal end. These expressed proteins may be mixed

with the array and may bind some of the proteins. Some of these proteins may bind to particular motifs at a particular locus.

The result is the creation of an intensity topography. For example, a nanoparticle bearing a nickel-NTA with a signal is added to bind to the bound proteins. This sort of a fingerprint is useful for instance, in taking a cDNA library from the heart tissue for instance, in which the proteins that are expressed in the heart can be bound to this array and the heart's protein fingerprint can be obtained.

Drug intervention resulting in the intervention of binding between the protein and the module can be assayed, which results in a particular type of topography and fingerprint for the protein obtained from a particular tissue. Therefore, a drug profile can be obtained for its effect or side-effects on the heart or kidney or any other organ by comparing a potentially new drug and its effect on the heart to see if an established effect of a drug on the protein profile can be matched to such a "fingerprint". If there is toxic effect of the drug in the established drug, then a decision can be used to not use it for its toxicity.

Therefore, in contrast to Li '104 the presently claimed invention is directed to detecting the interactants' activities and patterns on the surface where the interaction takes place, which presents its own set of advantages and efficiency for fingerprinting. Accordingly, Li '104 fails to anticipate the presently claimed invention.

#### **Rejection Under 35 U.S.C. §103(a) Over Li '104 (US 6,704,104)**

Claims 123-129 and 131 have been rejected under 35 U.S.C. §103(a) as being "obvious" over Li '104. Applicant traverses this rejection. Reconsideration and withdrawal thereof are respectfully requested.

Li '104 is described above.

Given that Li '104 discloses an array detector making a spatially addressable array of various biological species. In particular, Li '104 discloses an array detector that can sensitively detect each location of a high density DNA array, and since Li '104 fails to disclose any pattern formation or "fingerprinting" aspect of the claimed invention, the Li '104 reference cannot be

said to render the claimed invention obvious. Accordingly, the presently claimed invention is patentable over the cited reference.

**Conclusion**

It is believed that the application is now in condition for allowance. Applicants request the Examiner to issue a notice of Allowance in due course. The Examiner is encouraged to contact the undersigned to further the prosecution of the present invention.

The Commissioner is authorized to charge JHK Law's Deposit Account No. **502486** for any fees required under 37 CFR § 1.16 and 1.17 and to credit any overpayment to said Deposit Account No. **502486**.

Respectfully submitted,

**JHK Law**

Dated: August 17, 2010

By: Joseph Hyosuk Kim/  
Joseph Hyosuk Kim, Ph.D.  
Reg. No. 41,425

P.O. Box 1078  
La Canada, CA 91012-1078  
(818) 249-8177 - direct  
(818) 249-8277 - fax